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TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 674	**TPA CHANGE NOTICE FORM**	Date: 7/7/2015
Document Number, Title, and Revision: DOE/RL-2006-75, Reissue, Rev 1, *Supplement to the 100-HR-3 and 100-KR-4 Remedial Design Report and Remedial Action Workplan for the Expansion of the 100-KR-4 Pump and Treat System* C0079375		Date Document Last Issued: September 2008
Originator: Kris Ivarson		Phone: (509) 376-1941

Description of Change:

Provide clarification to allow for the use of SIR-700 at KW and KX pump-and-treat systems.

M.W. Cline (DOE) and C.J. Guzzetti (Lead Regulatory Agency) agree that the proposed change modifies an approved sampling and analysis plan and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.

Text within DOE/RL-2006-75 is updated to include SIR-700 ion exchange resin, as an alternate resin, at the KW and KX pump-and-treat systems in addition to the KR-4 pump-and-treat system.

Note: Added text is denoted by double underline. Deleted text is denoted by ~~strike-through.~~ Page 3-8, attached, is affected by this change.

Justification and Impacts of Change:

Approval of the use of SIR-700 was previously given for the *Supplement to the 100-HR-3 and 100-KR-4 Remedial Design Report and Remedial Action Workplan for the Expansion of the 100-KR-4 Pump and Treat System* (DOE/RL-2006-75) through TPA-CN-505 specific to the KR-4 pump and treat system. This change clarifies that the use of SIR-700 is approved for KX and KW also.

Approval of this change notice documents Washington State Department of Ecology and U.S. Environmental Protection Agencies approval of the use of SIR-700 resin at any of the 100-KR-4 groundwater OU pump and treat systems.

Approvals:

DOE Project Manager	7/7/2015 Date	[X] Approved [ ] Disapproved
EPA Project Manager	7/20/15 Date	[X] Approved [ ] Disapproved
N/A Ecology Project Manager	Date	[ ] Approved [ ] Disapproved

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199-K-143 and 199-K-150. Well 199-K-143 is a monitoring well that has been converted to an injection well; it is located inland of the downstream end of the former 116-K-2 Trench.

Injection wells 199-K-169 and 199-K-170, will be located north of the existing 100-KR-4 injection well field and completed by the end of FY08. Wells 199-K-171 and 199-K-172 will be located east of the existing 100-KR-4 injection well field.

The wells will be fully penetrating to the top of the Ringold Upper Mud Unit with 15.2-cm (6-in.)-diameter, stainless-steel casing and 0.020-in. (20-slot) screens. The well screens will extend at least 6.1 m (20 ft) above the average static water level in the wells. Well design details are displayed in Table 3-1. The initial injection rates for each well were set to 189.3 L/min (50 gpm) for the analytical modeling but are subject to change based on actual aquifer and vadose zone properties.

3.3.3 Balance of Plant

The balance of plant will include all control systems, piping, valves, pumps, and electrical and mechanical equipment that enables groundwater from the extraction wells conveyed to the treatment system and returned to the injection wells and to the aquifer.

The 100-KR-4 expanded pump-and-treat system has been designed to run with minimal operator interface. This capability results from the use of programmable logic controllers (PLCs) that receive and transmit electronic signals to and from the field control devices. Data are also transmitted via optical cable to the primary human/machine interface (HMI) where they can be viewed by the operator and system adjustments can be performed if necessary.

The HMI will be located in the treatment building and represents the primary link between the operator and the pump-and-treat system. From the operator interface control (OIC), the operator can view all tank levels, pump status, flow rates, pumping water levels, and alarm status. The OIC also serves as a data storage and retrieval device and will be configured so the system status can be viewed via a laptop computer from offsite locations.

Piping and electrical lines to wells will be run overland to minimize any cultural resource impacts. Freeze-control design will be included as part of the treatment system. No freeze protection will be applied to overland piping.

3.3.4 Groundwater Treatment System

The groundwater treatment system is constructed with a treatment capacity of 2,271 L/min (600 gpm). This design capacity is based on experience gained from operation of the existing 100-KR-4 pump-and-treat system. The nominal system operational flow rates will depend on aquifer conditions and groundwater transfer subsystem capacity.

The treatment system operational and acceptance testing has been scheduled for the Fall of 2008 to implement the remedial action as quickly as possible.

The selected treatment process for use at KX, KW and KR-4 pump-and-treat systems will use an IX system with Dowex® 21K or ResinTech™ SIR-700 resin that has effectively removed hexavalent chromium at the 100-HR-3 and 100-KR-4 pump-and-treat systems. If an alternate resin or other treatment system is identified, it may be used if approved by EPA. Spent resin may be regenerated offsite or at the Effluent Treatment Facility, or otherwise managed in a manner approved by EPA for this remedial action.

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